

**Solucions Factor Comú**

Treu factor comú el màxim que puguis de les següents expressions:

Exemple:

$$10xy^2 + 6x^3 \cdot y^4 - 14x^2y = 2xy \cdot (5y + 3x^2 \cdot y^3 - 7x)$$

$$1. \quad 18x^3 - 15x^2 \cdot y^6 + 30x^5 \cdot y = 2 \cdot 3^2 x^3 - 3 \cdot 5x^2 \cdot y^6 + 2 \cdot 3 \cdot 5x^5 \cdot y \rightarrow \boxed{3x^2 \cdot (6x - 5y^6 + 10x^3 y)}$$

$$2. \quad 7a^3 \cdot b + 70a^2 - 14a^2 \cdot b^4 = 7a^3 b + 2 \cdot 5 \cdot 7a^2 - 2 \cdot 7a^2 b^4 \rightarrow \boxed{7a^2 \cdot (ab + 10 - 2b^4)}$$

$$3. \quad 16p^2 \cdot q - 12p \cdot q^2 + 4p \cdot q = 2^4 p^2 q - 2^2 \cdot 3pq^2 + 2^2 pq \rightarrow \boxed{4pq \cdot (4p - 3q + 1)}$$

$$4. \quad \frac{2}{3}x^3 \cdot y - \frac{4}{3}x \cdot y^4 - \frac{10}{3}x \cdot y^2 = \frac{2}{3}x^3 \cdot y - \frac{2^2}{3}x \cdot y^4 - \frac{2 \cdot 5}{3}x \cdot y^2 \rightarrow \boxed{\frac{2}{3}xy \cdot (x^2 - 2y^3 - 5y)}$$

$$5. \quad \frac{4}{21}a^5 \cdot b^3 - \frac{6}{28}a^8 \cdot b^5 - \frac{2}{7}a^5 \cdot b^4 = \frac{2^2}{3 \cdot 7}a^5 \cdot b^3 - \frac{2 \cdot 3}{2^2 \cdot 7}a^8 \cdot b^5 - \frac{2}{7}a^5 \cdot b^4 \rightarrow$$

$$\boxed{\frac{2}{7}a^5 b^3 \cdot \left(\frac{2}{3} - \frac{3}{4}a^3 b^2 - b\right)}$$

$$6. \quad -6p \cdot q^7 + \frac{21}{5}p^3 \cdot q - 15p^4 \cdot q = -2 \cdot 3pq^7 + \frac{3 \cdot 7}{5}p^3 q - 3 \cdot 5p^4 q \rightarrow \boxed{3pq \cdot (-2q^6 + \frac{7}{5}p^2 - 5p^3)}$$

Utilitza el factor comú per a simplificar les següents expressions:

$$1. \quad \frac{2x^2 - 5x}{7x^6 + 5x} = \frac{x \cdot (2x - 5)}{x \cdot (7x^5 + 5)} \rightarrow \boxed{\frac{2x - 5}{7x^5 + 5}}$$

$$2. \quad -\frac{4a^3 - 6a^2}{10a + 16a^4} = -\frac{2a^2 \cdot (2a - 3)}{2a \cdot (5 + 8a^3)} \rightarrow \boxed{-\frac{a \cdot (2a - 3)}{5 + 8a^3} = \frac{3a - 2a^2}{5 + 8a^3}}$$

$$3. \quad \frac{21p^5 - 70p^3}{-14p^4 + 35p^2} = \frac{7p^3 \cdot (3p^2 - 10)}{7p^2 \cdot (-2p^2 + 5)} \rightarrow \boxed{\frac{p \cdot (3p^2 - 10)}{-2p^2 + 5} = \frac{3p^3 - 10p}{5 - 2p^2}}$$

$$4. \quad \frac{30x^2 \cdot y^3 - 42x^3 \cdot y^2}{12x^4 \cdot y + 6x^2 \cdot y} = \frac{6x^2 y^2 \cdot (5y - 7x)}{6x^2 y \cdot (2x^2 + 1)} \rightarrow \boxed{\frac{y \cdot (5y - 7x)}{2x^2 + 1} = \frac{5y^2 - 7xy}{2x^2 + 1}}$$

$$5. \quad \frac{-12a^5 \cdot b^3 - 20a^3 \cdot b^7}{-4a^3 \cdot b^3 - 28a^7 \cdot b^4} = \frac{-4a^3 b^3 \cdot (3a^2 + 5b^4)}{-4a^3 b^3 \cdot (1 + 4a^4 b)} \rightarrow \boxed{\frac{3a^2 + 5b^4}{1 + 4a^4 b}}$$

$$6. \quad -\frac{30p^2 \cdot q^5 - 15p \cdot q^3}{-45p^4 \cdot q^7 - 75p^2 \cdot q^3} = -\frac{15pq^3(2pq^2 - 1)}{-15p^2 q^3 \cdot (3p^2 q^4 + 5)} \rightarrow \boxed{\frac{2pq^2 - 1}{p \cdot (3p^2 q^4 + 5)} = \frac{2pq^2 - 1}{3p^3 q^4 + 5p}}$$